August 3, 2005

M E M O R A N D U M

TO: Charles W. Ariss, P.E.
Engineering Manager, Boise Regional Office

FROM: Paul Wakagawa P.E.
Technical Engineer

SUBJECT: **CTI-SSI Food Services, LLC - Permit Modification "C"**
Staff Analysis for Modifying Non-Growing Season Hydraulic Loading Rates
LA-000095-02 (Industrial Wastewater)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 58.01.17.700.02 for issuing a major modification to wastewater-land application permit LA-000095-02.

GENERAL DESCRIPTION

CTI-SSI Foods Services, Limited Liability Company (CTI-SSI) operates a food processing facility located approximately 2.5 miles north of Wilder on Highway 95. The plant produces meat and vegetable products for the commercial food industry. No animal slaughtering occurs at this facility.

The wastewater generated in the plant is created by routine cleanup activities and equipment sanitation operations. The wastewater contains both raw and cooked meat particles along with fats, oils, and grease associated with the meat. A limited amount of wastewater from vegetable processing is also generated.

Wastewater pretreatment consists of a rotary screen, balance tank, pH adjustment system, and a dissolved air flotation (DAF) clarifier. Effluent from the DAF clarifier can be pumped directly to the land application system or diverted to aerated storage lagoons.

SUMMARY OF EVENTS

In February 1994, WLAP Permit LA-000095-01 was issued to incorporate new, expanded land application areas (Fields CP-N, CP-S and F-N). The permit required a plan for rehabilitating the previous land application area (Plant site). This permit was modified in May 1996 to allow non-growing season land application on Field F-N, revise monitoring requirements for the former Plant site, and allow land application on additional company owned land at or below conservative rates specified in the permit.

On August 14, 1998, SSI submitted a renewal/modification permit application. This application was supplemented on March 11, 1999. On January 12, 2001, SSI submitted another report to DEQ which contains additional information to supplement the permit renewal application. A final permit (LA-000095-02) was issued in June 2003.

DISCUSSION

Section F of permit LA-000095-02, page 9, contains the following language regarding NGS hydraulic application rate limits:

“Non-growing season application rates for HMU’s 1, 2, and 6 may be adjusted by permit modification based on site-specific soil analysis for water holding capacity upon DEQ review and approval. Non-growing season application rates for pivot corners (MU-09505) may be incorporated into the permit by permit modification upon DEQ review and approval.”

In December 2003, CTI-SSI’s consultant, Brockway Engineering, submitted a request to revise the non-growing season (NGS) hydraulic loading rate limits. The submittal was based on site-specific soil field capacity values and literature values for the ratio between field capacity and the soil water-holding capacity.

DEQ reviewed the data and concluded this method to calculate the soil water-holding capacity resulted in values above what would be expected for the soil types present at this site. DEQ staff recommended alternative values based on typical values for soil water-holding capacities for the soil types present at this site. This resulted in lower NGS hydraulic loading rates than proposed by CTI-SSI.

DEQ also considered the following factors in making this recommendation:

1. Background ground water nitrate values in this area are high, well above the MCL of 10 mg/l and the land application site is located in a nitrate priority area.
2. Guideline NGS hydraulic loading rate limits are determined assuming the soil available water-holding capacity is at 100% entering the NGS.

DEQ, CTI-SSI, and Brockway Engineering met on June 9, 2005. Consensus was reached to issue a permit modification containing the revised NGS hydraulic loading rate limits based on the DEQ recommendations. DEQ agreed to leave the issue open for further discussion if CTI-SSI and Brockway would like to pursue alternative values. Staff recommends on-site soil moisture monitoring to justify higher values.

Staff recommends a permit modification be issued with the revised NGS hydraulic loading rates.